

**REMARKS**

Claims 1-32 stand rejected in the outstanding Official Action. Claims 1, 6, 8 and 12-14 have been amended and therefore claims 1-32 remain in this application.

Attached hereto is a marked-up version of the changes made to the specification and claim(s) by the current amendment. The attached page(s) is captioned "**Version With Markings To Show Changes Made.**"

The Examiner's acknowledgment of applicants' claim for foreign priority and receipt of the certified copy of the priority document is very much appreciated. Additionally, the Examiner's consideration of the prior art submitted with applicants' previously filed Information Disclosure Statement is also appreciated.

In sections 1 and 2 of the Official Action, the Patent Office objects to the lack of headings and subheadings in the present application. It is also appreciated that the Examiner has brought the arrangement of the specification to the applicant's attention. It is noted that the arrangement appear to be an indication that the originally filed specification and drawings (transmitted from WIPO) do not meet the formality requirements of the U.S. Patent and Trademark Office. The Patent Office is reminded that the U.S. Patent and Trademark Office must comply with all articles of the Patent Cooperation Treaty (PCT) including Article 27. It has been held that:

"if the rule and interpretation of the PTO conflicts with the PCT, it runs afoul of Article 27 of the PCT which provides in part:

- (1) No national law shall require compliance with requirements relating to the form or contents of the international application different from or additional

to those which are provided for in this Treaty and the Regulations."  
Caterpillar Tractor v. Commissioner, 231 USPQ 590, 591 (EDVA 1986).

The Patent Office has referenced this decision in the Official Gazette dated September 9, 1986 (1070 TMOG 5).

As a consequence, the Patent Office (including the Chief Draftsman's Office) may not require specification format changes as long as the originally submitted documents comply with the PCT requirements. Inasmuch as this specification was forwarded for WIPO, by definition, it meets the PCT requirements (it is not forwarded until it meets PCT requirements.). Therefore, the objection to the specification is respectfully traversed and reconsideration thereof is respectfully requested.

Notwithstanding the above, applicant has added headings and subheadings to the specification.

In section 3 of the Official Action, claim 12 is objected to, with the wrong tense of the word "provided" being included. Claim 12 has been amended, thereby obviating this objection.

Claim 6 is rejected under 35 USC §112 (first paragraph) as allegedly not being enabling for the first semiconductor being "in a bottom region of the groove."

Applicants' specification is sufficiently detailed so that one of ordinary skill in the art would be able to practice the claimed invention, and indeed it is noted that claim 6 provides support for the inclusion of a reference "in a bottom region of the groove" to the specification. However, applicants have deleted the language from claim 6, thereby obviating any further objection. However, it is noted that applicants' amended claim 6

reciting a "bottom region of the lined groove" would appear to be broad enough to cover the omitted but alternative language. Any further objection to claim 6 is respectfully traversed.

Claims 8 and 12-14 stand rejected under 35 USC §112 (second paragraph) as being indefinite. The Examiner suggests that claim 8 recites more than one conducting means and that the Examiner is not sure which of a number of embodiments are encompassed by the claim language. The simple answer to the Examiner's question is that all of the disclosed embodiments which comprise "more than one conducting means" meet the claim limitation. However, to clarify this, applicants have amended claim 8 so that the operative term recites "wherein said at least one elongate conducting means comprises two elongate conducting means." Clearly, as the Examiner notes, there are various embodiments having two elongate conducting means and all of these embodiments are covered by applicants' dependent claim 8.

The Examiner rejects claims 12-14 for the alternative claiming "electrode or electrodes" in the second line of each claim. Each of claims 1-14 has been amended to recite "said at least one further electrode" which has clear antecedent basis in claim 1 from which they depend.

Claims 19-32 stand rejected under 35 USC §112 (fourth paragraph) as allegedly being of improper dependent form. Applicants, in claims 19-32, recite an inventive method of providing a transistor which is described in claim 1. Rather than reciting the details of the structure set out in applicants' claim 1, this "shortcut" method of claim drafting has been adopted by the Board of Patent Appeals and Interferences as

specifically stated in *Ex parte Porter*, 25 USPQ2d 1144, 1147 (BOPAI 1992), with the Board stating "while claim 6 could be construed as an independent claim, drafted in a short-hand format to avoid rewriting of the particulars of the nozzle recited in claim 7, . . ." The Board notes that "we do regard a claim that incorporates by reference all of the subject matter of another claim, that is, the claim is not broader in any respect, to be in compliance with the fourth paragraph of 35 USC §112." *Id.* As a result, the "short-hand" method of claiming in applicants' method claim 19 has been approved by the Board of Patent Appeals and Interferences and does not violate the fourth paragraph of 35 USC §112. Accordingly, any further objection thereto is respectfully traversed.

Claims 1-7, 9, 10 and 12-18 stand rejected under 35 USC §103 as being unpatentable over Kizuki (U.S. Patent 5,679,962) in view of Kim (U.S. Patent 6,242,275) in further view of Chapple-Sokol (U.S. Patent 5,612,255) and in further view of Doyle (U.S. Patent 6,063,688). Initially it is noted that the Kim reference is not available as prior art against the present claims. The present application is a national phase entry of PCT Application PCT/GB99/01940 which priority has been confirmed by the Examiner in the Office Action Summary filed with Paper No. 10. Moreover, the PCT application which designates the United States claims priority from GB Application 9813142.8 filed June 19, 1998.

Thus, the present claims have priority back to **June 19, 1998** which is more than two months earlier than the filing date of the Kim reference (filed **August 21, 1998**). As a result, Kim is not available as a prior art reference in any rejection of the presently pending claims. As noted in paragraph 15 of the Official Action, the Kim reference is

critical to the Examiner's combination of the Kizuki, Kim, Chapple-Sokol and Doyle references. If the reference to the Kim reference is removed from paragraphs 15-26, there is simply no basis for rejecting any of the claims based only upon the Kizuki, Chapple-Sokol and Doyle combination. Accordingly, any further rejection of these claims under 35 USC §103 is respectfully traversed.

It is additionally noted that the Examiner has provided no basis for rejection of claims 8 and 11 and in fact has indicated that claim 11 contains allowable subject matter. The indication of allowable subject matter in claim 11 is appreciated, although it is submitted that the Examiner should also have indicated that claim 8 contained allowable subject matter.

Applicants appreciate the indication of allowable subject matter, but does not believe that it is necessary to rewrite claim 11 in independent form, inasmuch as the Kim reference, which was central to the Examiner's rejections of all other claims, is simply not available as prior art against these claims.

The Examiner has also failed to address claims 19-32 which he suggests are rejected in the Office Action summary sheet. These claims are presumably also allowable, inasmuch as they depend ultimately from independent claim 1. Clarification of any basis for rejection of these claims is respectfully requested.

Having responded to all objections and rejections set forth in the outstanding Official Action, it is submitted that claims 1-32 are in condition for allowance and notice to that effect is respectfully solicited. In the event the Examiner is of the opinion that a

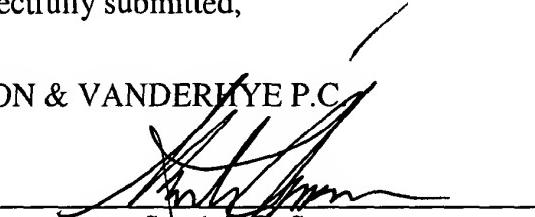
**JEFFERSON et al.**  
**Serial No. 09/701,884**

brief telephone or personal interview will facilitate allowance of one or more of the above claims, he is respectfully requested to contact applicant's undersigned representative.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By:

  
Stanley C. Spooner  
Reg. No. 27,393

SCS:kmm  
1100 North Glebe Road, 8th Floor  
Arlington, VA 22201-4714  
Telephone: (703) 816-4000  
Facsimile: (703) 816-4100

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

Page 1, line 2 (between the Title and first paragraph):

BACKGROUND OF THE INVENTION

1. Field of the Invention

Page 1, line 5:

2. Discussion of Prior Art

Page 2, line 10:

SUMMARY OF THE INVENTION

Page 10, line 11:

BRIEF DESCRIPTION OF THE DRAWINGS

Page 11, before line 1:

DETAILED DISCUSSION OF EMBODIMENTS

IN THE CLAIMS

1. (*Amended*) A transistor [having] comprising at least one, substantially one-dimensional, elongate conducting means provided by at least a first semiconductor substantially surrounded by a second semiconductor and extending between source and drain electrodes, and in which there is provided at least one further electrode in a region of the at least one elongate conducting means, the at least one elongate conducting means being provided in a groove within the second semiconductor, said groove being oriented such that at least one wall of the groove is a, substantially planar, surface, [roughly]

substantially parallel to a crystal plane on which the growth rate of the first semiconductor is substantially zero.

6. (*Twice Amended*) A transistor according to claim 1 wherein the conducting means comprises an elongate region of the first semiconductor in a bottom region of the second semiconductor, that is in a bottom region of the lined groove[, or in a bottom region of the groove].

8. (*Twice Amended*) A transistor according to claim 1 wherein [there is provided more than one] said at least one elongate conducting means comprises two elongate conducting means.

12. (*Twice Amended*) A transistor according to claim 1 wherein [the electrode or electrodes are] said at least one further electrode is arranged to [provided] provide confinement in a third dimension for charge carriers within the conducting means, in which hard confinement in two dimensions holds charge carriers within the conducting means.

13. (*Twice Amended*) A transistor according to claim 1 wherein [the electrode or electrodes are] said at least one further electrode is arranged substantially transverse to the conducting means.

14. (*Twice Amended*) A transistor according to claim 1 wherein [the electrode or electrodes are, in use, capable of causing] said at least one further electrode is arranged to cause a peak within the energy bands of the first semiconductor of the conducting means.